



Surname _____

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Centre Number _____

Candidate Number _____

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I declare this is my own work.

GCSE

MATHEMATICS

F

Foundation Tier

Paper 1 Non-Calculator

8300/1F

Time allowed: 1 hour 30 minutes

At the top of the page, write your surname and other names, your centre number, your candidate number and add your signature.

[Turn over]



For this paper you must have:

- **mathematical instruments.**

You must NOT use a calculator.



INSTRUCTIONS

- **Use black ink or black ball-point pen. Draw diagrams in pencil.**
- **Answer ALL questions.**
- **You must answer the questions in the spaces provided. Do not write on blank pages.**
- **If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).**
- **Do all rough work in this book. Cross through any work you do not want to be marked.**

INFORMATION

- **The marks for questions are shown in brackets.**
- **The maximum mark for this paper is 80.**
- **You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.**



ADVICE

In all calculations, show clearly how you work out your answer.

DO NOT TURN OVER UNTIL TOLD TO DO SO



Answer ALL questions in the spaces provided.

1 Circle the answer to 0.02×100 [1 mark]

0.2 2 20 200

2 Circle the expression that is equal to $x + x + x - x + x$ [1 mark]

x $2x$ $3x$ $4x$

3 What is 260 millimetres in centimetres?

Circle your answer. [1 mark]

0.26 cm 2.6 cm 26 cm 2600 cm



- 4 Which shape CAN have sides with lengths that are all different?

Circle your answer. [1 mark]

trapezium

kite

parallelogram

rhombus

- 5 Work out $(-8) \times 5$ [1 mark]

Answer _____

[Turn over]

5



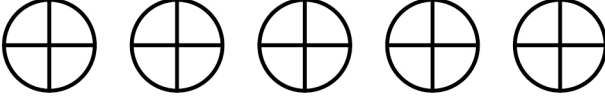
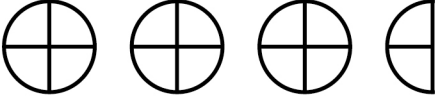
Answer _____ **pence**

[Turn over]



- 7 Rashid counted the pieces of homework he had done in three subjects.

He draws a pictogram to show the results.

Maths	
English	
Geography	

KEY:  represents 4 pieces of homework

- 7 (a) Rashid had done 5 pieces of Geography homework.

Show this information on the pictogram.
[1 mark]



8 A travel company is taking some passengers on a trip.

They can use coaches or minibuses.

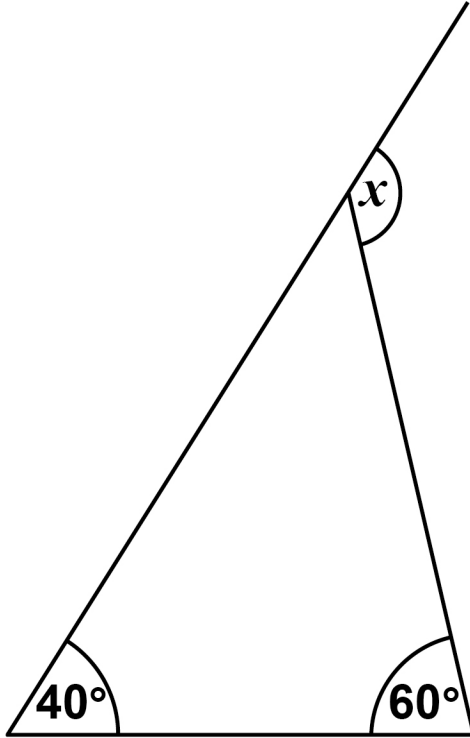
Each coach can carry 53 passengers.

Each minibus can carry 12 passengers.

The passengers going on the trip would exactly fill 3 coaches.

If the company uses only minibuses, how many will they need? [4 marks]

- 9 One side of a triangle is extended.
The diagram is not drawn accurately.



Circle the size of angle x . [1 mark]

100° 80° 60° 40°

- 10 Pavel uses his calculator to work out 352×7268

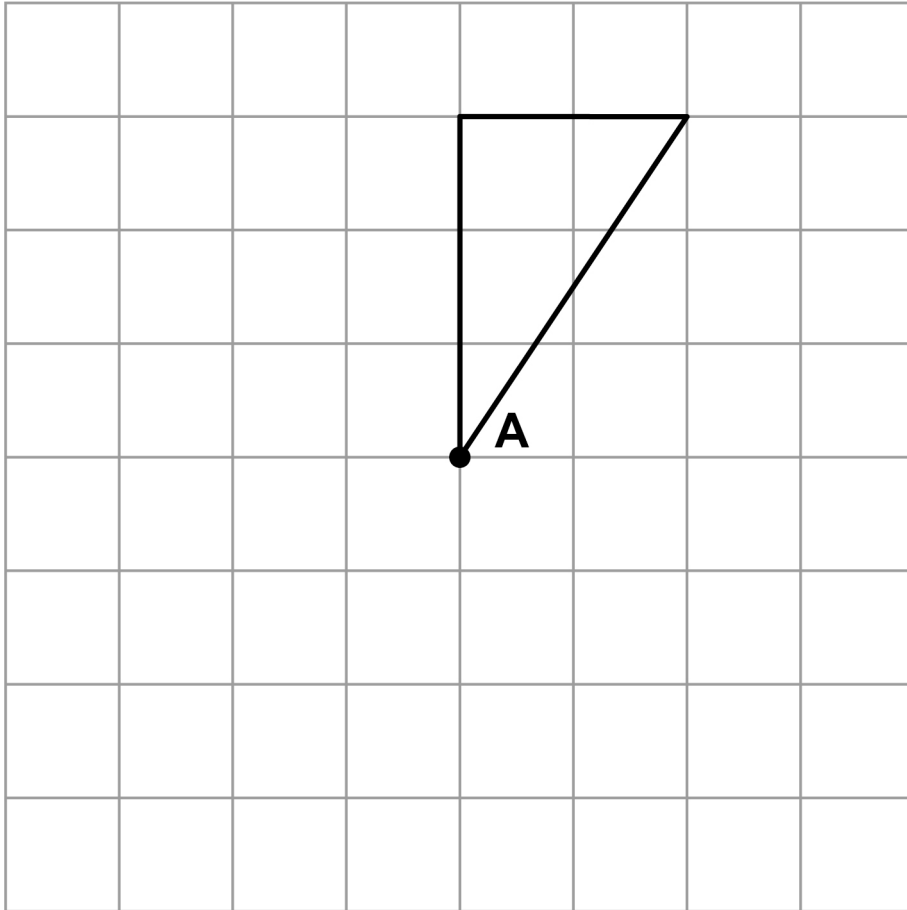
Circle the LAST digit in the answer. [1 mark]

0 2 6 8

6



- 11 Complete the diagram so that it has rotational symmetry of order 4
centre of rotation at point A. [2 marks]



[Turn over]



12 10% of 2100 is 210

Work out 43% of 2100 [3 marks]



Answer _____

[Turn over]

<hr/>
5



- 13** Katy records the number of cars using a drive-through each hour for 24 hours.

Here are the results.

36 20 37 53 42 41 24 18
 39 35 40 47 38 17 23 18
 13 35 10 7 6 18 31 57

Katy makes this tally and frequency chart to put the data into groups.

Number of cars	Tally	Frequency
0 to 10		
10 to 20		
20 to 30		
30 to 40		
40 to 50		



Make TWO criticisms of Katy's tally and frequency chart.

**You do NOT need to complete the chart.
[2 marks]**

Criticism 1 _____

Criticism 2 _____

[Turn over]

14 Counters in a bag are red, white or blue.

A counter is picked at random.

Complete the table. [2 marks]

	Red	White	Blue
Probability	0.15	0.4	

4



15 Here is a calculation.

$$31 \times 84 = 2604$$

You can use the calculation to help answer the following questions.

15 (a) Work out $2604 \div 84$ [1 mark]

Answer _____

15 (b) Work out 3.1×8.4 [1 mark]

Answer _____

15 (c) Work out 31×85 [2 marks]

Answer _____

[Turn over]



16 A password has 30 characters.

It is made up of 5 numbers, 15 letters and some symbols.

Work out the ratio numbers : letters : symbols

Give your answer in its simplest form. [2 marks]

Answer _____ : _____ : _____

17 Work out $\frac{5}{6} + \frac{7}{12}$

Give your answer as a mixed number. [3 marks]



Answer _____

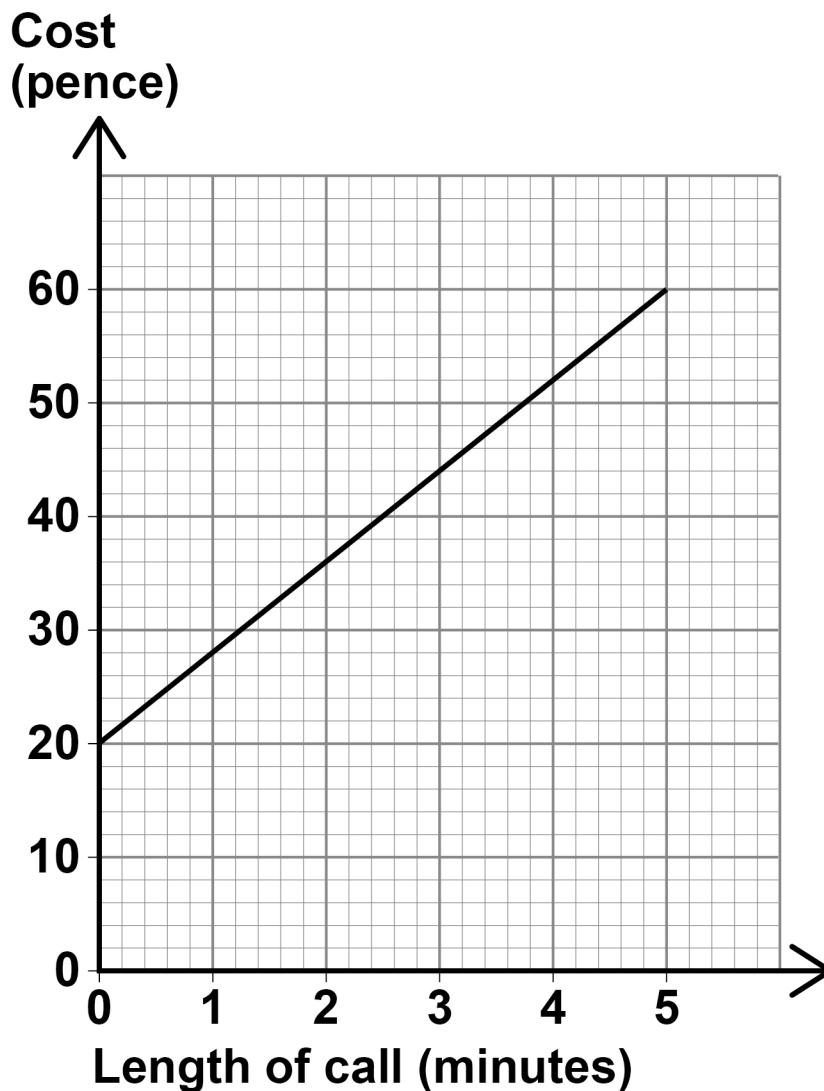
[Turn over]

9



- 18 The cost of making a phone call is a fixed charge and a charge per minute.

The costs of phone calls up to 5 minutes are represented by the graph.



- 18 (a) Write down the fixed charge. [1 mark]

Answer _____ pence



18 (b) Work out the charge per minute. [2 marks]

Answer _____ pence

18 (c) Work out the cost of a phone call lasting 7 minutes. [2 marks]

Answer _____ pence



[Turn over]

- 19 A company sells bags of toffees and bags of mints.

Here are the numbers of sweets in 11 bags of toffees.

55	50	49	51	55	47
54	50	49	55	57	

Here are the numbers of sweets in 10 bags of mints.

46	47	47	48	48	50	53
54	54	54				

The company claims that the average number of sweets per bag is at least 50

Using medians, is the company's claim correct for each type of sweet?

You **MUST** work out the median for toffees and the median for mints. [4 marks]

Toffees _____



Tick a box for toffees.

Yes

No

Mints _____

Tick a box for mints.

Yes

No

[Turn over]



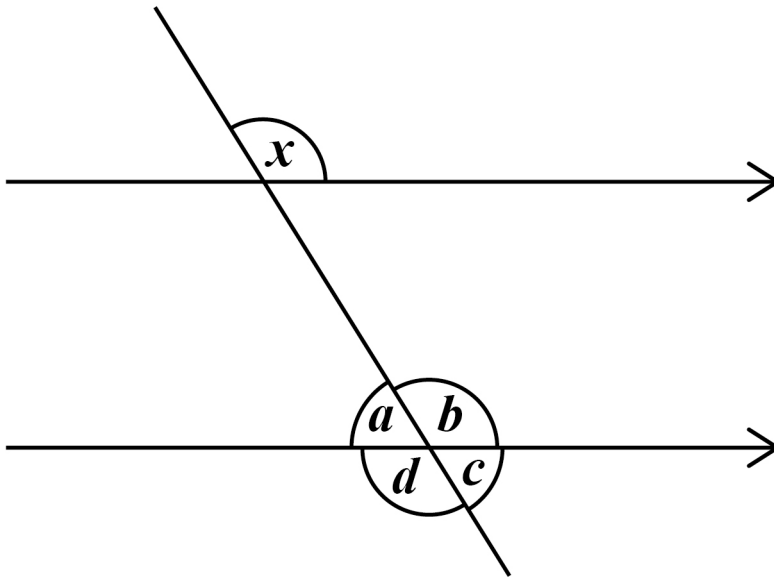
20 Freddie tries to work out $\frac{29.15 + 83.47}{9.82}$

His answer is 37.65

By rounding each number to the nearest 10,
show that his answer is incorrect. [3 marks]



- 21 A straight line passes through two parallel lines.
The diagram is not drawn accurately.



Circle the angle that is **CORRESPONDING** to angle x . [1 mark]

a

b

c

d

[Turn over]

8



22 (a) Lucy wants to simplify $6a - (7b - 2a)$

She writes $4a - 7b$

Is she correct?

Tick a box.

Yes

No

Give a reason for your answer. [1 mark]



22 (b) Lucy also wants to simplify $3p^2 \times 5p^7$

She says,

“Add 3 and 5, then add 2 and 7”

Her answer is $8p^9$

Tick a box for each part of her method. [1 mark]

	Correct	Not correct
Add 3 and 5	<input type="checkbox"/>	<input type="checkbox"/>
Add 2 and 7	<input type="checkbox"/>	<input type="checkbox"/>

22 (c) Lucy thinks of a number.

$10 \times$ the number = $10 \div$ the number

Give a possible value of the number. [1 mark]

Answer _____

[Turn over]



23 Lily's age is 2 years and 4 months.

Hugo's age is 1 year and 8 months.

Write Lily's age in months as a fraction of Hugo's age in months.

Give your fraction in its simplest form. [2 marks]

Answer _____

5



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[Turn over]



24 Working alone, it takes Kevin 4 hours to paint an area of 12 m^2

Kevin and Steve are going to paint an area of 24 m^2

Kevin says,

“Working together at the same rate it will take us 8 hours, because 24 is 2×12 ”

Is he correct?

Tick a box.

Yes

No

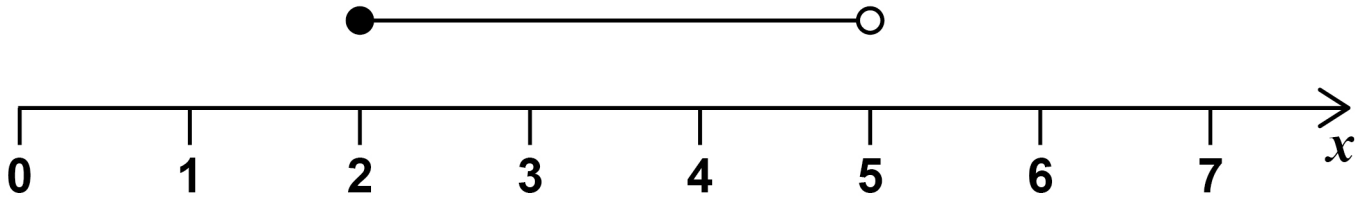
Give a reason for your answer. [1 mark]



[Turn over]



25 (b) Write down the inequality represented by the number line. [2 marks]



Answer _____

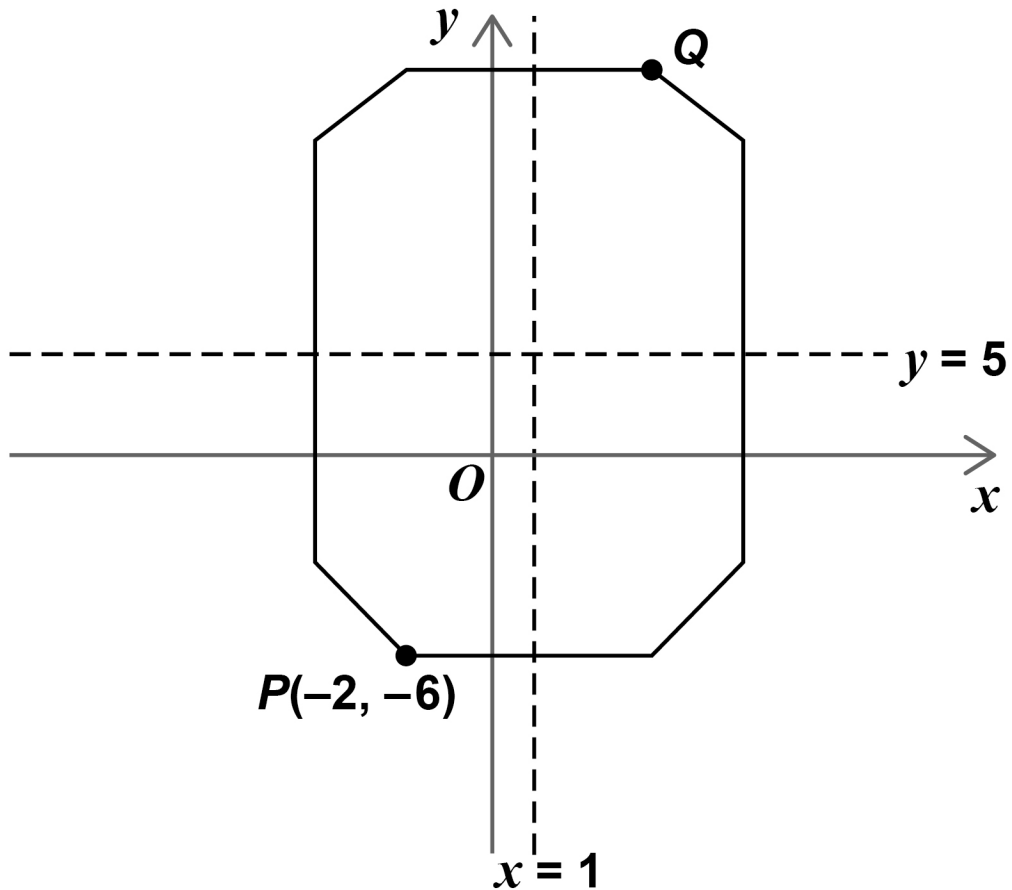
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6



26 The diagram shows an octagon.

The diagram is not drawn accurately.



$x = 1$ and $y = 5$ are lines of symmetry.

Work out the coordinates of point Q. [2 marks]

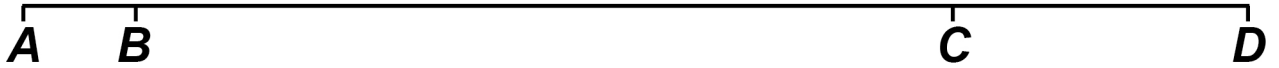
Answer (_____ , _____)

[Turn over]



28 *A, B, C* and *D* are junctions on a motorway.

The diagram is not accurately.



distance *CD* = 3 × distance *AB*

distance *BC* = 25 miles

Salma drives from *A* to *C*.

She drives for 30 minutes at an average speed of 62 miles per hour.

Work out the distance *AD*. [4 marks]

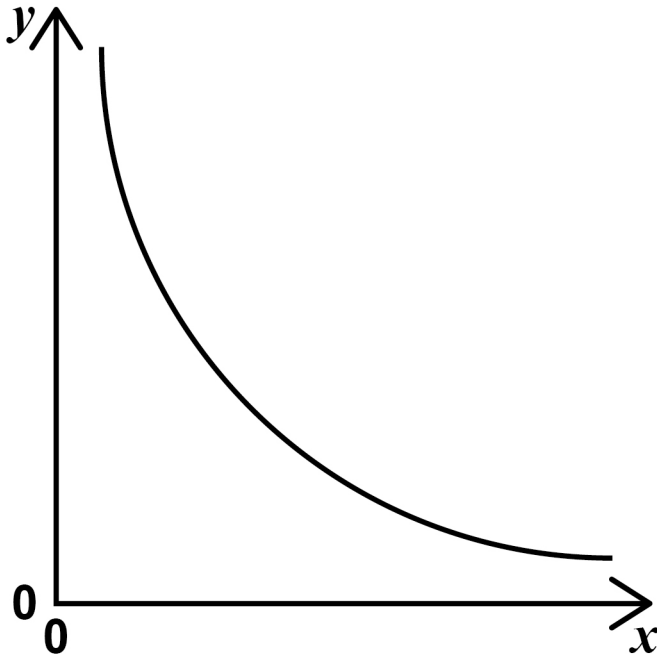


Answer _____ **miles**

[Turn over]



29 Here is a sketch of a graph.



Circle the equation of the graph.

k is a constant. [1 mark]

$y = kx$ $y = k + x$ $y = k - x$ $y = \frac{k}{x}$



30 Write 200 as a product of prime factors.

Give your answer in index form. [3 marks]

Answer _____

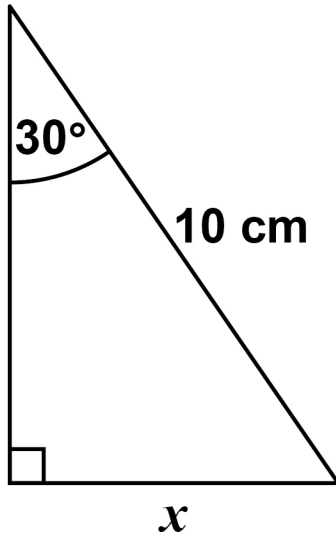
[Turn over]

8



31 Here is a right-angled triangle.

The diagram is not drawn accurately.



Use trigonometry to work out the value of x .
[3 marks]

Answer _____ cm



32 Factorise $x^2 + 7x + 10$ [2 marks]

Answer _____

END OF QUESTIONS

5



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For Examiner's Use	
Pages	Mark
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TOTAL	

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